

WHAT IS CLAIMED IS:

1. An image forming apparatus comprising:
  - a plurality of sheet storage means;
  - image forming means for forming an image on a sheet fed from any of said sheet storage means;
  - a sheet re-feeding path for guiding again the sheet, which has a first image formed on one side surface thereof by said image forming means, to said image forming means so as to form a second image on the other side surface of the sheet; and
  - a drawing path for drawing in the sheet to switchback it when the sheet having the first image formed thereon is sent to said sheet re-feeding path;
  - wherein said sheet re-feeding path is disposed substantially horizontally at a location below said image forming means;
  - said drawing path is disposed substantially horizontally between said sheet re-feeding path and said plurality of sheet storage means; and
  - a sheet feeding path for feeding the sheet from said sheet storage means crosses said drawing path to join to said sheet re-feeding path.
2. The image forming apparatus according to claim 1, wherein
  - said plurality of sheet storage means are disposed horizontally at locations below said sheet re-feeding path along a sheet conveying direction in said sheet re-feeding path; and
  - said sheet feeding path for feeding the sheet from said sheet

storage means disposed at an upstream side of said sheet re-feeding path in the sheet conveying direction thereof crosses said drawing path.

3. The image forming apparatus according to claim 1, further comprising

a gate for guiding the sheet passing through an intersection at which said sheet feeding path and said drawing path cross each other.

4. The image forming apparatus according to claim 3, wherein said image forming means comprises fixing means for fixing a toner image transferred to the sheet; and

said gate is disposed so as to guide a rear surface of the post-fixed sheet opposite to a surface thereof on which said toner image is fixed.

5. The image forming apparatus according to claim 3, wherein said gate is movable to a first position at which the sheet from said sheet feeding path is guided to a portion of said sheet re-feeding path disposed at a downstream side of said intersection, and to a second position at which the sheet from a portion of said drawing path disposed at an upstream side of said intersection is guided to a portion of said drawing path disposed at a downstream side of said intersection.

6. The image forming apparatus according to claim 5, wherein

said gate when located at said second position serves to guide the sheet from a portion of said sheet re-feeding path disposed at an upstream side of said intersection to the portion of said sheet re-feeding path disposed at a downstream side of said intersection.

7. The image forming apparatus according to claim 5, wherein said gate is pivotable between said first position and said second position about a fulcrum of rotation thereof which is disposed at a downstream side of said intersection at a location between said sheet feeding path and said drawing path.

8. The image forming apparatus according to claim 7, further comprising:

urging means for urging said gate so as to position it to said second position; and

an actuator for turning said gate to said first position against the urging force of said urging means.

9. The image forming apparatus according to claim 3, wherein said gate is mounted on a lower guide member forming a lower surface of said sheet re-feeding path, said gate being able to be drawn to a front side of said apparatus main body together with said lower guide member.

10. The image forming apparatus according to claim 9, wherein said lower guide member also serves as a member forming an

upper surface of said drawing path.

11. The image forming apparatus according to claim 1, further comprising:

registration means for correcting skewing of the sheet at an upstream side of said image forming means;

discharge means for discharging the sheet after image formation to the outside of said apparatus main body; and

sheet reversing and discharging means for switchbacking and guiding the sheet after image formation to said discharge means so as to reverse the sheet inside out to discharge it to the outside of said apparatus main body;

wherein said registration means, a fixing means constituting said image forming means, said sheet reversing and discharging means, and a guide member forming said sheet re-feeding path are constructed in such a manner that they are able to be integrally drawn out, as a unit, to a front side of said apparatus main body.

12. The image forming apparatus according to claim 11, wherein internal paths of said sheet reversing and discharging means are opened by opening a door to a side of said apparatus main body at a position of said unit at which said unit has been drawn out to the front side of said apparatus main body.

13. The image forming apparatus according to claim 11, wherein said guide member forming said sheet re-feeding path comprises: an upper guide member forming an upper surface of said

sheet re-feeding path; and a lower guide member forming a lower surface of said sheet re-feeding path; and

said lower guide member is movable downwardly to open said sheet re-feeding path at a position of said unit at which said unit has been drawn out to the front side of said apparatus main body.

14. The image forming apparatus according to claim 13, wherein said lower guide member also serves as a member forming an upper surface of said drawing path.

15. An image forming apparatus comprising:

a pair of sheet decks disposed in a horizontal direction in an apparatus main body for storing sheets, respectively;

an image forming unit disposed at a location above said pair of sheet decks;

a sheet feeding path connecting said sheet deck and said image forming unit with each other;

an output tray disposed at a side of said apparatus main body;

a sheet discharge path connecting said image forming unit and said output tray with each other;

a drawing path branching from said sheet discharge path so as to be disposed substantially horizontally at a location above said pair of sheet decks; and

a sheet re-feeding path disposed substantially horizontally between said drawing path and said image forming unit for connecting

said sheet discharge path and said sheet feeding path with each other;

wherein said sheet feeding path connected from one of said pair of sheet decks to said image forming unit crosses said drawing path to be connected with said sheet re-feeding path, whereby said sheet feeding path serves as a part of said sheet re-feeding path.

16. The image forming apparatus according to claim 15, further comprising

a gate disposed at an intersection at which said sheet feeding path crosses said drawing path, said gate being pivotable between a substantially horizontal state for permitting said drawing path to draw in the sheet, and an inclined state for permitting said sheet feeding path to convey the sheet.